SEQUENCE LISTING

(1) GENERAL INFORMATION:

   (i) APPLICANT: Clark, Ross G1
                 Lowman, Henry B.
                 Robinson, Iain C.A.F.

   (ii) TITLE OF INVENTION: Insulin-like Growth Factor Agonist
Molecules

 (iii) NUMBER OF SEQUENCES: 109

  (iv) CORRESPONDENCE ADDRESS:
      (A) ADDRESSEE: Genentech, Inc.
      (B) STREET: 1 DNA Way
      (C) CITY: South San Francisco
      (D) STATE: California
      (E) COUNTRY: USA
      (F) ZIP: 94080

   (v) COMPUTER READABLE FORM:
      (A) MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
      (B) COMPUTER: IBM PC compatible
      (C) OPERATING SYSTEM: PC-DOS/MS-DOS
      (D) SOFTWARE: WinPatin (Genentech)

  (vi) CURRENT APPLICATION DATA:
      (A) APPLICATION NUMBER: 09/052888
      (B) FILING DATE: 31-Mar-1998
      (C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:
      (A) NAME: Hasak, Janet E.
      (B) REGISTRATION NUMBER: 28,616
      (C) REFERENCE/DOCKET NUMBER: P1071P1

  (ix) TELECOMMUNICATION INFORMATION:
      (A) TELEPHONE: 650/225-1896
      (B) TELEFAX: 650/952-9881

(2) INFORMATION FOR SEQ ID NO:1:

  (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 21 amino acids
      (B) TYPE: Amino Acid
      (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Glu Leu Asp Gly Trp Val Cys Ile Lys Val Gly Glu Gln Asn Leu
 1   5   10   15

```
Cys Tyr Leu Ala Glu Gly
              20  21
```

(2) INFORMATION FOR SEQ ID NO:2:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 21 amino acids
      (B) TYPE: Amino Acid
      (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

```
Trp Phe Lys Thr Val Cys Tyr Glu Trp Glu Asp Glu Val Gln Cys
 1               5               10                      15

Tyr Thr Leu Glu Glu Gly
              20  21
```

(2) INFORMATION FOR SEQ ID NO:3:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 21 amino acids
      (B) TYPE: Amino Acid
      (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

```
Arg Val Gly Ala Tyr Ile Ser Cys Ser Glu Thr Glu Cys Trp Val
 1               5               10                      15

Glu Asp Leu Leu Asp Gly
              20  21
```

(2) INFORMATION FOR SEQ ID NO:4:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 20 amino acids
      (B) TYPE: Amino Acid
      (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

```
Val Ala Trp Glu Val Cys Trp Asp Arg His Asp Gln Gly Tyr Ile
 1               5               10                      15

Cys Thr Thr Asp Ser
              20
```

(2) INFORMATION FOR SEQ ID NO:5:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 18 amino acids

(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Ala Trp Glu Val Cys Trp Asp Arg His Gln Gly Tyr Ile Cys Thr
1   5   10   15

Thr Asp Ser
        18

(2) INFORMATION FOR SEQ ID NO:6:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Cys Trp Asp Arg His Asp Gln Gly Tyr Ile Cys Thr Thr Asp Ser
1   5   10   15

(2) INFORMATION FOR SEQ ID NO:7:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Glu Glu Ser Glu Cys Phe Glu Gly Pro Gly Tyr Val Ile Cys Gly
1   5   10   15

Leu Val Gly
        18

(2) INFORMATION FOR SEQ ID NO:8:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Asp Met Gly Val Cys Ala Asp Gly Pro Trp Met Tyr Val Cys Glu
1   5   10   15

Trp Thr Glu
        18

(2) INFORMATION FOR SEQ ID NO:9:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

```
Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
 1            5              10               15

Met Trp Gly
        18
```

(2) INFORMATION FOR SEQ ID NO:10:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

```
Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
 1            5              10               15
```

(2) INFORMATION FOR SEQ ID NO:11:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

```
Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn Met Trp Gly
 1            5              10               15
```

(2) INFORMATION FOR SEQ ID NO:12:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 12 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

```
Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
 1            5              10       12
```

(2) INFORMATION FOR SEQ ID NO:13:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

```
Thr Gly Val Asp Cys Gln Cys Gly Pro Val His Cys Val Cys Met
 1               5               10                  15

Asp Trp Ala
        18
```

(2) INFORMATION FOR SEQ ID NO:14:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

```
Thr Val Ala Asn Cys Asp Cys Tyr Met Pro Leu Cys Leu Cys Tyr
 1               5               10                  15

Asp Ser Asp
        18
```

(2) INFORMATION FOR SEQ ID NO:15:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

```
Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe Gly
 1               5               10                  15
```

(2) INFORMATION FOR SEQ ID NO:16:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 19 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Ser Glu Val Gly Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
1   5   10   15

Lys Tyr Phe Gly
              19

(2) INFORMATION FOR SEQ ID NO:17:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 400 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Double
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

TCACGTAAAA AGGGTATCTA GAATTATGAT GATTACTCTG CGCAAACTTC 50

CTCTGGCGGT TGCCGTCGCA GCGGGCGTAA TGTCTGCTCA GGCCATGGCC 100

GGTCCCGAAA CTCTGTGCGG TGCTGAACTG GTTGACGCTC TGCAGTTCGT 150

ATGTGGTGAT CGAGGCTTCC TGTTCAACAA ACCGACTGGG GCTGGATCCT 200

CCTCTCGTCG TGCTCCCCAG ACTGGTATTG TTGACGAATG CTGCTTTCGT 250

TCTTGCGACC TGCGTCGTCT GGAAATGTAT TGCGCTCCCC TGAAACCCGC 300

TAAATCTGCT TAGAAGCTCC TAACGCTCGG TTGCCGCCGG GCGTTTTTTA 350

TTGTTAACTC ATGTTTGACA GCTTATCATC GATAAGCTTT AATGCGGTAG 400

(2) INFORMATION FOR SEQ ID NO:18:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 95 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Met Met Ile Thr Leu Arg Lys Leu Pro Leu Ala Val Ala Val Ala
1   5   10   15

Ala Gly Val Met Ser Ala Gln Ala Met Ala Gly Pro Glu Thr Leu
                  20   25   30

Cys Gly Ala Glu Leu Val Asp Ala Leu Gln Phe Val Cys Gly Asp
                  35   40   45

156

```
Arg Gly Phe Leu Phe Asn Lys Pro Thr Gly Ala Gly Ser Ser Ser
          50                  55              60

Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys Phe Arg
          65                  70              75

Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Ala Pro Leu Lys
          80                  85              90

Pro Ala Lys Ser Ala
          95
```

(2) INFORMATION FOR SEQ ID NO:19:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5115 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Double
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

```
GAATTCAACT TCTCCATACT TTGGATAAGG AAATACAGAC ATGAAAAATC 50

TCATTGCTGA GTTGTTATTT AAGCTTGCCC AAAAAGAAGA AGAGTCGAAT 100

GAACTGTGTG CGCAGGTAGA AGCTTTGGAG ATTATCGTCA CTGCAATGCT 150

TCGCAATATG GCGCAAAATG ACCAACAGCG GTTGATTGAT CAGGTAGAGG 200

GGGCGCTGTA CGAGGTAAAG CCCGATGCCA GCATTCCTGA CGACGATACG 250

GAGCTGCTGC GCGATTACGT AAAGAAGTTA TTGAAGCATC CTCGTCAGTA 300

AAAAGTTAAT CTTTTCAACA GCTGTCATAA AGTTGTCACG GCCGAGACTT 350

ATAGTCGCTT TGTTTTTATT TTTTAATGTA TTTGTAACTA GTACGCAAGT 400

TCACGTAAAA AGGGTATCTA GAATTATGAT GATTACTCTG CGCAAACTTC 450

CTCTGGCGGT TGCCGTCGCA GCGGGCGTAA TGTCTGCTCA GGCCATGGCC 500

GGTCCCGAAA CTCTGTGCGG TGCTGAACTG GTTGACGCTC TGCAGTTCGT 550

ATGTGGTGAT CGAGGCTTCC TGTTCAACAA ACCGACTGGG GCTGGATCCT 600

CCTCTCGTCG TGCTCCCCAG ACTGGTATTG TTGACGAATG CTGCTTTCGT 650

TCTTGCGACC TGCGTCGTCT GGAAATGTAT TGCGCTCCCC TGAAACCCGC 700

TAAATCTGCT TAGAAGCTCC TAACGCTCGG TTGCCGCCGG GCGTTTTTTA 750
```

157

```
TTGTTAACTC ATGTTTGACA GCTTATCATC GATAAGCTTT AATGCGGTAG 800

TTTATCACAG TTAAATTGCT AACGCAGTCA GGCACCGTGT ATGAAATCTA 850

ACAATGCGCT CATCGTCATC CTCGGCACCG TCACCCTGGA TGCTGTAGGC 900

ATAGGCTTGG TTATGCCGGT ACTGCCGGGC CTCTTGCGGG ATATCGTCCA 950

TTCCGACAGC ATCGCCAGTC ACTATGGCGT GCTGCTAGCG CTATATGCGT 1000

TGATGCAATT TCTATGCGCA CCCGTTCTCG GAGCACTGTC CGACCGCTTT 1050

GGCCGCCGCC CAGTCCTGCT CGCTTCGCTA CTTGGAGCCA CTATCGACTA 1100

CGCGATCATG GCGACCACAC CCGTCCTGTG GATCCTCTAC GCCGGACGCA 1150

TCGTGGCCGG CATCACCGGC GCCACAGGTG CGGTTGCTGG CGCCTATATC 1200

GCCGACATCA CCGATGGGGA AGATCGGGCT CGCCACTTCG GGCTCATGAG 1250

CGCTTGTTTC GGCGTGGGTA TGGTGGCAGG CCCCGTGGCC GGGGGACTGT 1300

TGGGCGCCAT CTCCTTGCAT GCACCATTCC TTGCGGCGGC GGTGCTCAAC 1350

GGCCTCAACC TACTACTGGG CTGCTTCCTA ATGCAGGAGT CGCATAAGGG 1400

AGAGCGTCGA CCGATGCCCT TGAGAGCCTT CAACCCAGTC AGCTCCTTCC 1450

GGTGGGCGCG GGGCATGACT ATCGTCGCCG CACTTATGAC TGTCTTCTTT 1500

ATCATGCAAC TCGTAGGACA GGTGCCGGCA GCGCTCTGGG TCATTTTCGG 1550

CGAGGACCGC TTTCGCTGGA GCGCGACGAT GATCGGCCTG TCGCTTGCGG 1600

TATTCGGAAT CTTGCACGCC CTCGCTCAAG CCTTCGTCAC TGGTCCCGCC 1650

ACCAAACGTT TCGGCGAGAA GCAGGCCATT ATCGCCGGCA TGGCGGCCGA 1700

CGCGCTGGGC TACGTCTTGC TGGCGTTCGC GACGCGAGGC TGGATGGCCT 1750

TCCCCATTAT GATTCTTCTC GCTTCCGGCG GCATCGGGAT GCCCGCGTTG 1800

CAGGCCATGC TGTCCAGGCA GGTAGATGAC GACCATCAGG ACAGCTTCA 1850

AGGATCGCTC GCGGCTCTTA CCAGCCTAAC TTCGATCACT GGACCGCTGA 1900

TCGTCACGGC GATTTATGCC GCCTCGGCGA GCACATGGAA CGGGTTGGCA 1950

TGGATTGTAG GCGCCGCCCT ATACCTTGTC TGCCTCCCCG CGTTGCGTCG 2000

CGGTGCATGG AGCCGGGCCA CCTCGACCTG AATGGAAGCC GGCGGCACCT 2050
```

158

CGCTAACGGA TTCACCACTC CAAGAATTGG AGCCAATCAA TTCTTGCGGA 2100

GAACTGTGAA TGCGCAAACC AACCCTTGGC AGAACATATC CATCGCGTCC 2150

GCCATCTCCA GCAGCCGCAC GCGGCGCATC TCGGGCAGCG TTGGGTCCTG 2200

GCCACGGGTG CGCATGATCG TGCTCCTGTC GTTGAGGACC CGGCTAGGCT 2250

GGCGGGGTTG CCTTACTGGT TAGCAGAATG AATCACCGAT ACGCGAGCGA 2300

ACGTGAAGCG ACTGCTGCTG CAAAACGTCT GCGACCTGAG CAACAACATG 2350

AATGGTCTTC GGTTTCCGTG TTTCGTAAAG TCTGGAAACG CGGAAGTCAG 2400

CGCCCTGCAC CATTATGTTC CGGATCTGCA TCGCAGGATG CTGCTGGCTA 2450

CCCTGTGGAA CACCTACATC TGTATTAACG AAGCGCTGGC ATTGACCCTG 2500

AGTGATTTTT CTCTGGTCCC GCCGCATCCA TACCGCCAGT TGTTTACCCT 2550

CACAACGTTC CAGTAACCGG GCATGTTCAT CATCAGTAAC CCGTATCGTG 2600

AGCATCCTCT CTCGTTTCAT CGGTATCATT ACCCCCATGA ACAGAAATTC 2650

CCCCTTACAC GGAGGCATCA AGTGACCAAA CAGGAAAAAA CCGCCCTTAA 2700

CATGGCCCGC TTTATCAGAA GCCAGACATT AACGCTTCTG GAGAAACTCA 2750

ACGAGCTGGA CGCGGATGAA CAGGCAGACA TCTGTGAATC GCTTCACGAC 2800

CACGCTGATG AGCTTTACCG CAGCTGCCTC GCGCGTTTCG GTGATGACGG 2850

TGAAAACCTC TGACACATGC AGCTCCCGGA GACGGTCACA GCTTGTCTGT 2900

AAGCGGATGC CGGGAGCAGA CAAGCCCGTC AGGGCGCGTC AGCGGGTGTT 2950

GGCGGGTGTC GGGGCGCAGC CATGACCCAG TCACGTAGCG ATAGCGGAGT 3000

GTATACTGGC TTAACTATGC GGCATCAGAG CAGATTGTAC TGAGAGTGCA 3050

CCATATGCGG TGTGAAATAC CGCACAGATG CGTAAGGAGA AAATACCGCA 3100

TCAGGCGCTC TTCCGCTTCC TCGCTCACTG ACTCGCTGCG CTCGGTCGTT 3150

CGGCTGCGGC GAGCGGTATC AGCTCACTCA AAGGCGGTAA TACGGTTATC 3200

CACAGAATCA GGGGATAACG CAGGAAAGAA CATGTGAGCA AAAGGCCAGC 3250

AAAAGGCCAG GAACCGTAAA AAGGCCGCGT TGCTGGCGTT TTTCCATAGG 3300

CTCCGCCCCC CTGACGAGCA TCACAAAAAT CGACGCTCAA GTCAGAGGTG 3350

GCGAAACCCG ACAGGACTAT AAAGATACCA GGCGTTTCCC CCTGGAAGCT 3400

CCCTCGTGCG CTCTCCTGTT CCGACCCTGC CGCTTACCGG ATACCTGTCC 3450

GCCTTTCTCC CTTCGGGAAG CGTGGCGCTT TCTCATAGCT CACGCTGTAG 3500

GTATCTCAGT TCGGTGTAGG TCGTTCGCTC CAAGCTGGGC TGTGTGCACG 3550

AACCCCCCGT TCAGCCCGAC CGCTGCGCCT TATCCGGTAA CTATCGTCTT 3600

GAGTCCAACC CGGTAAGACA CGACTTATCG CCACTGGCAG CAGCCACTGG 3650

TAACAGGATT AGCAGAGCGA GGTATGTAGG CGGTGCTACA GAGTTCTTGA 3700

AGTGGTGGCC TAACTACGGC TACACTAGAA GGACAGTATT TGGTATCTGC 3750

GCTCTGCTGA AGCCAGTTAC CTTCGGAAAA AGAGTTGGTA GCTCTTGATC 3800

CGGCAAACAA ACCACCGCTG GTAGCGGTGG TTTTTTTGTT TGCAAGCAGC 3850

AGATTACGCG CAGAAAAAAA GGATCTCAAG AAGATCCTTT GATCTTTTCT 3900

ACGGGGTCTG ACGCTCAGTG GAACGAAAAC TCACGTTAAG GGATTTTGGT 3950

CATGAGATTA TCAAAAAGGA TCTTCACCTA GATCCTTTTA AATTAAAAAT 4000

GAAGTTTTAA ATCAATCTAA AGTATATATG AGTAAACTTG GTCTGACAGT 4050

TACCAATGCT TAATCAGTGA GGCACCTATC TCAGCGATCT GTCTATTTCG 4100

TTCATCCATA GTTGCCTGAC TCCCCGTCGT GTAGATAACT ACGATACGGG 4150

AGGGCTTACC ATCTGGCCCC AGTGCTGCAA TGATACCGCG AGACCCACGC 4200

TCACCGGCTC CAGATTTATC AGCAATAAAC CAGCCAGCCG GAAGGGCCGA 4250

GCGCAGAAGT GGTCCTGCAA CTTTATCCGC CTCCATCCAG TCTATTAATT 4300

GTTGCCGGGA AGCTAGAGTA AGTAGTTCGC CAGTTAATAG TTTGCGCAAC 4350

GTTGTTGCCA TTGCTGCAGG CATCGTGGTG TCACGCTCGT CGTTTGGTAT 4400

GGCTTCATTC AGCTCCGGTT CCCAACGATC AAGGCGAGTT ACATGATCCC 4450

CCATGTTGTG CAAAAAAGCG GTTAGCTCCT TCGGTCCTCC GATCGTTGTC 4500

AGAAGTAAGT TGGCCGCAGT GTTATCACTC ATGGTTATGG CAGCACTGCA 4550

TAATTCTCTT ACTGTCATGC CATCCGTAAG ATGCTTTTCT GTGACTGGTG 4600

AGTACTCAAC CAAGTCATTC TGAGAATAGT GTATGCGGCG ACCGAGTTGC 4650

TCTTGCCCGG CGTCAACACG GGATAATACC GCGCCACATA GCAGAACTTT 4700

AAAAGTGCTC ATCATTGGAA AACGTTCTTC GGGGCGAAAA CTCTCAAGGA 4750

TCTTACCGCT GTTGAGATCC AGTTCGATGT AACCCACTCG TGCACCCAAC 4800

TGATCTTCAG CATCTTTTAC TTTCACCAGC GTTTCTGGGT GAGCAAAAAC 4850

AGGAAGGCAA AATGCCGCAA AAAGGGAAT AAGGGCGACA CGGAAATGTT 4900

GAATACTCAT ACTCTTCCTT TTTCAATATT ATTGAAGCAT TTATCAGGGT 4950

TATTGTCTCA TGAGCGGATA CATATTTGAA TGTATTTAGA AAAATAAACA 5000

AATAGGGGTT CCGCGCACAT TTCCCCGAAA AGTGCCACCT GACGTCTAAG 5050

AAACCATTAT TATCATGACA TTAACCTATA AAAATAGGCG TATCACGAGG 5100

CCCTTTCGTC TTCAA 5115

(2) INFORMATION FOR SEQ ID NO:20:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 5140 base pairs
      (B) TYPE: Nucleic Acid
      (C) STRANDEDNESS: Single
      (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

GAATTCAACT TCTCCATACT TTGGATAAGG AAATACAGAC ATGAAAAATC 50

TCATTGCTGA GTTGTTATTT AAGCTTGCCC AAAAAGAAGA AGAGTCGAAT 100

GAACTGTGTG CGCAGGTAGA AGCTTTGGAG ATTATCGTCA CTGCAATGCT 150

TCGCAATATG GCGCAAAATG ACCAACAGCG GTTGATTGAT CAGGTAGAGG 200

GGGCGCTGTA CGAGGTAAAG CCCGATGCCA GCATTCCTGA CGACGATACG 250

GAGCTGCTGC GCGATTACGT AAAGAAGTTA TTGAAGCATC CTCGTCAGTA 300

AAAAGTTAAT CTTTTCAACA GCTGTCATAA AGTTGTCACG GCCGAGACTT 350

ATAGTCGCTT TGTTTTTATT TTTTAATGTA TTTGTAACTA GTACGCAAGT 400

TCACGTAAAA AGGGTATCTA GAGGTTGAGG TGATTTTATG AAAAAGAATA 450

TCGCATTTCT TCTTGCATCT ATGTTCGTTT TTTCTATTGC TACAAATGCC 500

TATGCATCTG GTACCGCCAT GGCTGATCCG AACCGTTTCC GCGGTAAAGA 550

TCTGGCAGGT TCACCAGGTG GAGGATCCGG AGGAGGCGCC GAGGGTGACG 600

ATCCCGCAAA AGCGGCCTTT AACTCCCTGC AAGCCTCAGC GACCGAATAT 650

ATCGGTTATG CGTGGGCGAT GGTTGTTGTC ATTGTCGGCG CAACTATCGG 700

TATCAAGCTG TTTAAGAAAT TCACCTCGAA AGCAAGCTGA TAAACCGATA 750

CAATTAAAGG CTCCTTTTGG AGCCTTTTTT TTTGGAGATT TTCAACGTGA 800

AAAAATTATT ATTCGCAATT CCTTTAGTTG TTCCTTTCTA TTCTCACTCC 850

GCTGAAACTG TTGAAAGTTG TTTAGCAAAA CCCCATACAG AAAATTCATT 900

TACTAACGTC TGGAAAGACG ACAAAACTTT AGATCGTTAC GCTAACTATG 950

AGGGTTGTCT GTGGAATGCT ACAGGCGTTG TAGTTTGTAC TGGTGACGAA 1000

ACTCAGTGTC TAGCTAGAGT GGCGGTGGCT CTGGTTCCGG TGATTTTGAT 1050

TATGAAAAGA TGGCAAACGC TAATAAGGGG GCTATGACCG AAAATGCCGA 1100

TGAAAACGCG CTACAGTCTG ACGCTAAAGG CAAACTTGAT TCTGTCGCTA 1150

CTGATTACGG TGCTGCTATC GATGGTTTCA TTGGTGACGT TTCCGGCCTT 1200

GCTAATGGTA ATGGTGCTAC TGGTGATTTT GCTGGCTCTA ATTCCCAAAT 1250

GGCTCAAGTC GGTGACGGTG ATAATTCACC TTTAATGAAT AATTTCCGTC 1300

AATATTTACC TTCCCTCCCT CAATCGGTTG AATGTCGCCC TTTTGTCTTT 1350

AGCGCTGGTA AACCATATGA ATTTTCTATT GATTGTGACA AAATAAACTT 1400

ATTCCGTGGT GTCTTTGCGT TTCTTTTATA TGTTGCCACC TTTATGTATG 1450

TATTTTCTAC GTTTGCTAAC ATACTGCGTA ATAAGGAGTC TTAATCATGC 1500

CAGTTCTTTT GGCTAGCGCC GCCCTATACC TTGTCTGCCT CCCCGCGTTG 1550

CGTCGCGGTG CATGGAGCCG GGCCACCTCG ACCTGAATGG AAGCCGGCGG 1600

CACCTCGCTA ACGGATTCAC CACTCCAAGA ATTGGAGCCA ATCAATTCTT 1650

GCGGAGAACT GTGAATGCGC AAACCAACCC TTGGCAGAAC ATATCCATCG 1700

CGTCCGCCAT CTCCAGCAGC CGCACGCGGC GCATCTCGGG CAGCGTTGGG 1750

TCCTGGCCAC GGGTGCGCAT GATCGTGCTC CTGTCGTTGA GGACCCGGCT 1800

AGGCTGGCGG GGTTGCCTTA CTGGTTAGCA GAATGAATCA CCGATACGCG 1850

162

```
AGCGAACGTG AAGCGACTGC TGCTGCAAAA CGTCTGCGAC CTGAGCAACA 1900

ACATGAATGG TCTTCGGTTT CCGTGTTTCG TAAAGTCTGG AAACGCGGAA 1950

GTCAGCGCCC TGCACCATTA TGTTCCGGAT CTGCATCGCA GGATGCTGCT 2000

GGCTACCCTG TGGAACACCT ACATCTGTAT TAACGAAGCG CTGGCATTGA 2050

CCCTGAGTGA TTTTTCTCTG GTCCCGCCGC ATCCATACCG CCAGTTGTTT 2100

ACCCTCACAA CGTTCCAGTA ACCGGGCATG TTCATCATCA GTAACCCGTA 2150

TCGTGAGCAT CCTCTCTCGT TTCATCGGTA TCATTACCCC CATGAACAGA 2200

AATTCCCCCT TACACGGAGG CATCAAGTGA CCAAACAGGA AAAAACCGCC 2250

CTTAACATGG CCCGCTTTAT CAGAAGCCAG ACATTAACGC TTCTGGAGAA 2300

ACTCAACGAG CTGGACGCGG ATGAACAGGC AGACATCTGT GAATCGCTTC 2350

ACGACCACGC TGATGAGCTT TACCGCAGGA TCCGGAAATT GTAAACGTTA 2400

ATATTTTGTT AAAATTCGCG TTAAATTTTT GTTAAATCAG CTCATTTTTT 2450

AACCAATAGG CCGAAATCGG CAAAATCCCT TATAAATCAA AAGAATAGAC 2500

CGAGATAGGG TTGAGTGTTG TTCCAGTTTG GAACAAGAGT CCACTATTAA 2550

AGAACGTGGA CTCCAACGTC AAAGGGCGAA AAACCGTCTA TCAGGGCTAT 2600

GGCCCACTAC GTGAACCATC ACCCTAATCA AGTTTTTTGG GGTCGAGGTG 2650

CCGTAAAGCA CTAAATCGGA ACCCTAAAGG GAGCCCCCGA TTTAGAGCTT 2700

GACGGGGAAA GCCGGCGAAC GTGGCGAGAA AGGAAGGGAA GAAAGCGAAA 2750

GGAGCGGGCG CTAGGGCGCT GGCAAGTGTA GCGGTCACGC TGCGCGTAAC 2800

CACCACACCC GCCGCGCTTA ATGCGCCGCT ACAGGGCGCG TCCGGATCCT 2850

GCCTCGCGCG TTTCGGTGAT GACGGTGAAA ACCTCTGACA CATGCAGCTC 2900

CCGGAGACGG TCACAGCTTG TCTGTAAGCG GATGCCGGGA GCAGACAAGC 2950

CCGTCAGGGC GCGTCAGCGG GTGTTGGCGG GTGTCGGGGC GCAGCCATGA 3000

CCCAGTCACG TAGCGATAGC GGAGTGTATA CTGGCTTAAC TATGCGGCAT 3050

CAGAGCAGAT TGTACTGAGA GTGCACCATA TGCGGTGTGA AATACCGCAC 3100

AGATGCGTAA GGAGAAAATA CCGCATCAGG CGCTCTTCCG CTTCCTCGCT 3150
```

163

```
CACTGACTCG CTGCGCTCGG TCGTTCGGCT GCGGCGAGCG GTATCAGCTC 3200

ACTCAAAGGC GGTAATACGG TTATCCACAG AATCAGGGGA TAACGCAGGA 3250

AAGAACATGT GAGCAAAAGG CCAGCAAAAG GCCAGGAACC GTAAAAAGGC 3300

CGCGTTGCTG GCGTTTTTCC ATAGGCTCCG CCCCCCTGAC GAGCATCACA 3350

AAAATCGACG CTCAAGTCAG AGGTGGCGAA ACCCGACAGG ACTATAAAGA 3400

TACCAGGCGT TTCCCCCTGG AAGCTCCCTC GTGCGCTCTC CTGTTCCGAC 3450

CCTGCCGCTT ACCGGATACC TGTCCGCCTT TCTCCCTTCG GGAAGCGTGG 3500

CGCTTTCTCA TAGCTCACGC TGTAGGTATC TCAGTTCGGT GTAGGTCGTT 3550

CGCTCCAAGC TGGGCTGTGT GCACGAACCC CCCGTTCAGC CCGACCGCTG 3600

CGCCTTATCC GGTAACTATC GTCTTGAGTC CAACCCGGTA AGACACGACT 3650

TATCGCCACT GGCAGCAGCC ACTGGTAACA GGATTAGCAG AGCGAGGTAT 3700

GTAGGCGGTG CTACAGAGTT CTTGAAGTGG TGGCCTAACT ACGGCTACAC 3750

TAGAAGGACA GTATTTGGTA TCTGCGCTCT GCTGAAGCCA GTTACCTTCG 3800

GAAAAAGAGT TGGTAGCTCT TGATCCGGCA AACAAACCAC CGCTGGTAGC 3850

GGTGGTTTTT TTGTTTGCAA GCAGCAGATT ACGCGCAGAA AAAAAGGATC 3900

TCAAGAAGAT CCTTTGATCT TTTCTACGGG GTCTGACGCT CAGTGGAACG 3950

AAAACTCACG TTAAGGGATT TTGGTCATGA GATTATCAAA AAGGATCTTC 4000

ACCTAGATCC TTTTAAATTA AAAATGAAGT TTTAAATCAA TCTAAAGTAT 4050

ATATGAGTAA ACTTGGTCTG ACAGTTACCA ATGCTTAATC AGTGAGGCAC 4100

CTATCTCAGC GATCTGTCTA TTTCGTTCAT CCATAGTTGC CTGACTCCCC 4150

GTCGTGTAGA TAACTACGAT ACGGGAGGGC TTACCATCTG GCCCCAGTGC 4200

TGCAATGATA CCGCGAGACC CACGCTCACC GGCTCCAGAT TTATCAGCAA 4250

TAAACCAGCC AGCCGGAAGG GCCGAGCGCA GAAGTGGTCC TGCAACTTTA 4300

TCCGCCTCCA TCCAGTCTAT TAATTGTTGC CGGGAAGCTA GAGTAAGTAG 4350

TTCGCCAGTT AATAGTTTGC GCAACGTTGT TGCCATTGCT GCAGGCATCG 4400

TGGTGTCACG CTCGTCGTTT GGTATGGCTT CATTCAGCTC CGGTTCCCAA 4450
```

164

CGATCAAGGC GAGTTACATG ATCCCCCATG TTGTGCAAAA AAGCGGTTAG 4500

CTCCTTCGGT CCTCCGATCG TTGTCAGAAG TAAGTTGGCC GCAGTGTTAT 4550

CACTCATGGT TATGGCAGCA CTGCATAATT CTCTTACTGT CATGCCATCC 4600

GTAAGATGCT TTTCTGTGAC TGGTGAGTAC TCAACCAAGT CATTCTGAGA 4650

ATAGTGTATG CGGCGACCGA GTTGCTCTTG CCCGGCGTCA ACACGGGATA 4700

ATACCGCGCC ACATAGCAGA ACTTTAAAAG TGCTCATCAT TGGAAAACGT 4750

TCTTCGGGGC GAAAACTCTC AAGGATCTTA CCGCTGTTGA GATCCAGTTC 4800

GATGTAACCC ACTCGTGCAC CCAACTGATC TTCAGCATCT TTTACTTTCA 4850

CCAGCGTTTC TGGGTGAGCA AAAACAGGAA GGCAAAATGC CGCAAAAAAG 4900

GGAATAAGGG CGACACGGAA ATGTTGAATA CTCATACTCT TCCTTTTTCA 4950

ATATTATTGA AGCATTTATC AGGGTTATTG TCTCATGAGC GGATACATAT 5000

TTGAATGTAT TTAGAAAAAT AAACAAATAG GGGTTCCGCG CACATTTCCC 5050

CGAAAAGTGC CACCTGACGT CTAAGAAACC ATTATTATCA TGACATTAAC 5100

CTATAAAAAT AGGCGTATCA CGAGGCCCTT TCGTCTTCAA 5140

(2) INFORMATION FOR SEQ ID NO:21:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 77 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Ser Gly Thr Ala Met Ala Asp Pro Asn Arg Phe Arg Gly Lys Asp
1   5   10   15

Leu Ala Gly Ser Pro Gly Gly Gly Ser Gly Gly Gly Ala Glu Gly
           20   25   30

Asp Asp Pro Ala Lys Ala Ala Phe Asn Ser Leu Gln Ala Ser Ala
           35   40   45

Thr Glu Tyr Ile Gly Tyr Ala Trp Ala Met Val Val Val Ile Val
           50   55   60

Gly Ala Thr Ile Gly Ile Lys Leu Phe Lys Lys Phe Thr Ser Lys
           65   70   75

165

Ala Ser
      77

(2) INFORMATION FOR SEQ ID NO:22:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 50 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

GTTCGTATGT GGTGATCGAG GCTTCCTGTT CAACAAACCG ACTGGGGCTG 50

(2) INFORMATION FOR SEQ ID NO:23:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 58 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear
    (ii) MOLECULE TYPE: Nucleic Acid

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

GATCCAGCCC CAGTCGGTTT GTTGAACAGG AAGCCTCGAT CACCACATAC 50

GAACTGCA 58

(2) INFORMATION FOR SEQ ID NO:24:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Ser Gly Thr Ala Cys Xaa Xaa Gly Pro Xaa Xaa Xaa Xaa Cys Ser
 1   5   10   15

Leu Ala Gly Ser Pro
                20

(2) INFORMATION FOR SEQ ID NO:25:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Xaa Xaa Xaa Xaa Cys Xaa Xaa Gly Pro Xaa Xaa Xaa Xaa Cys Xaa
1   5   10   15

Xaa Xaa Xaa
        18

(2) INFORMATION FOR SEQ ID NO:26:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa
            20

(2) INFORMATION FOR SEQ ID NO:27:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa
            20

(2) INFORMATION FOR SEQ ID NO:28:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa
1   5   10   15

```
Xaa Xaa Xaa Xaa Xaa
                20
```

(2) INFORMATION FOR SEQ ID NO:29:

   (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 20 amino acids
       (B) TYPE: Amino Acid
       (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

```
Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa
 1               5               10               15

Xaa Xaa Xaa Xaa Xaa
                20
```

(2) INFORMATION FOR SEQ ID NO:30:

   (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 20 amino acids
       (B) TYPE: Amino Acid
       (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

```
Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
 1               5               10               15

Xaa Xaa Xaa Xaa Xaa
                20
```

(2) INFORMATION FOR SEQ ID NO:31:

   (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 20 amino acids
       (B) TYPE: Amino Acid
       (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

```
Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
 1               5               10               15

Xaa Xaa Xaa Xaa Xaa
                20
```

(2) INFORMATION FOR SEQ ID NO:32:

   (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 20 amino acids

168

(B) TYPE: Amino Acid
          (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
  1   5   10   15

Cys Xaa Xaa Xaa Xaa
                  20

(2) INFORMATION FOR SEQ ID NO:33:

    (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 20 amino acids
          (B) TYPE: Amino Acid
          (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
  1   5   10   15

Cys Xaa Xaa Xaa Xaa
                  20

(2) INFORMATION FOR SEQ ID NO:34:

    (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 20 amino acids
          (B) TYPE: Amino Acid
          (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Gly Gly Thr Tyr Ser Cys His Phe Gly Pro Leu Thr Trp Val Cys
  1   5   10   15

Lys Pro Gln Gly Gly
                  20

(2) INFORMATION FOR SEQ ID NO:35:

    (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 10 amino acids
          (B) TYPE: Amino Acid
          (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Cys Xaa Xaa Gly Pro Xaa Xaa Xaa Xaa Cys
  1   5   10

(2) INFORMATION FOR SEQ ID NO:36:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 70 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

GCCTATGCAT CTGGTACCGC CTGCNNSNNS GGTCCTNNSN NSNNSNNSTG 50

TTCTCTGGCA GGTTCACCAG 70

(2) INFORMATION FOR SEQ ID NO:37:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 91 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear
   (ii) MOLECULE TYPE: Nucleic Acid

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

GCTACAAATG CCTATGCANN SNNSNNSNNS TGCNNSNNSG GTCCTNNSNN 50

SNNSNNSTGT NNSNNSNNSN NSGGTGGAGG ATCCGGAGGA G 91

(2) INFORMATION FOR SEQ ID NO:38:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 97 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSNNSNNST GCNNSNNSNN 50

SNNSTGCNNS NNSNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:39:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 97 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSNNSNNST GCNNSNNSNN 50

SNNSNNSTGC NNSNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:40:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 97 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSNNSTGCN NSNNSNNSNN 50

SNNSNNSTGC NNSNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:41:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 97 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSNNSTGCN NSNNSNNSNN 50

SNNSNNSNNS TGCNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:42:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 97 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSTGCNNSN NSNNSNNSNN 50

SNNSNNSNNS TGCNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:43:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 97 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSTGCNNSN NSNNSNNSNN 50

SNNSNNSNNS NNSTGCNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:44:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 97 base pairs
        (B) TYPE: Nucleic Acid
        (C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

GCTACAAATG CCTATGCANN SNNSNNSNNS TGCNNSNNSN NSNNSNNSNN 50

SNNSNNSNNS NNSTGCNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:45:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1   5   10   15

Xaa Xaa Xaa Xaa Xaa
        20

(2) INFORMATION FOR SEQ ID NO:46:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 97 base pairs
        (B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSNNSNNSN NSNNSNNSNN 50

SNNSNNSNNS NNSNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:47:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

Ser Gly Thr Ala Cys Tyr Gly Gly Pro Glu Trp Trp Cys Cys Ser
 1   5   10   15

Leu Ala Gly Ser Pro
            20

(2) INFORMATION FOR SEQ ID NO:48:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

Asp Leu Ala Ile Cys Ala Glu Gly Pro Glu Ile Trp Val Cys Glu
 1   5   10   15

Glu Thr Ser
        18

(2) INFORMATION FOR SEQ ID NO:49:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

Asp Phe Trp Ile Cys Leu Ser Gly Pro Gly Trp Glu Glu Cys Leu
 1   5   10   15

Glu Trp Trp
        18

(2) INFORMATION FOR SEQ ID NO:50:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

Gly Ser Ala Gly Gln Gly Met Thr Glu Glu Trp Ala Trp Ile Trp
 1   5   10   15

Glu Trp Trp Lys Glu
            20

(2) INFORMATION FOR SEQ ID NO:51:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Glu Leu Asp Gly Trp Val Cys Ile Lys Val Gly Glu Gln Asn Leu
 1   5   10   15

Cys Tyr Leu Ala Glu
            20

(2) INFORMATION FOR SEQ ID NO:52:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

Ala Ile Gly Gly Trp Cys Phe Ile Glu Leu Asp Ser Leu Trp Cys
 1   5   10   15

Glu Glu Gln Ile Gly
            20

(2) INFORMATION FOR SEQ ID NO:53:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids

174

```
           (B) TYPE: Amino Acid
           (D) TOPOLOGY: Linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

     Ser Glu Asp Val Glu Cys Trp Gln Val Trp Glu Asn Leu Val Cys
      1               5               10                      15


     Ser Val Glu His Arg
                     20


   (2) INFORMATION FOR SEQ ID NO:54:

       (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 19 amino acids
           (B) TYPE: Amino Acid
           (D) TOPOLOGY: Linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

     Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
      1               5               10                      15


     Met Trp Gly Arg
                  19


   (2) INFORMATION FOR SEQ ID NO:55:

       (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 20 amino acids
           (B) TYPE: Amino Acid
           (D) TOPOLOGY: Linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

     Arg Val Gly Ala Tyr Ile Ser Cys Ser Glu Thr Glu Cys Trp Val
      1               5               10                      15


     Glu Asp Leu Leu Asp
                     20


   (2) INFORMATION FOR SEQ ID NO:56:

       (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 20 amino acids
           (B) TYPE: Amino Acid
           (D) TOPOLOGY: Linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

     Trp Phe Lys Thr Val Cys Tyr Glu Trp Glu Asp Glu Val Gln Cys
      1               5               10                      15
```

```
Tyr Thr Leu Glu Glu
                20


(2) INFORMATION FOR SEQ ID NO:57:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

Arg Leu Glu Glu Gln Cys Val Glu Val Asn Tyr Glu Pro Ser Cys
 1               5                   10                  15


Ser Phe Thr Ala Asn
                20


(2) INFORMATION FOR SEQ ID NO:58:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 19 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
 1               5                   10                  15


Ile Leu Gly Pro
            19


(2) INFORMATION FOR SEQ ID NO:59:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

Glu Thr Val Ala Asn Cys Asp Cys Tyr Met Asp Leu Cys Leu Cys
 1               5                   10                  15


Tyr Gly Ser Asp Arg
                20


(2) INFORMATION FOR SEQ ID NO:60:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
```

```
          (B) TYPE: Amino Acid
          (D) TOPOLOGY: Linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

Tyr His Pro Ile Ser Cys Met Asp His Tyr Tyr Leu Ile Ile Cys
  1               5                  10                  15

Asp Glu Thr Val Asn
              20


(2) INFORMATION FOR SEQ ID NO:61:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Ala Glu Trp Ala Glu Cys Trp Ile Ala Gly Asp Gln Leu Leu Cys
  1               5                  10                  15

Val Gly Lys Asp Asn
              20


(2) INFORMATION FOR SEQ ID NO:62:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

Glu Pro Trp Leu Cys Gln Tyr Tyr Glu Ala Ala Met Leu Tyr Leu
  1               5                  10 .                15

Cys Trp Glu Glu Gly
              20

(2) INFORMATION FOR SEQ ID NO:63:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

Ala Glu Glu Gly Met Val Trp Gly Trp Thr Gly Gly Trp Tyr Asn
  1               5                  10                  15
```

```
Leu Asp Glu Leu Cys
                20


(2) INFORMATION FOR SEQ ID NO:64:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

Ser Gly Gly Ala Ile Tyr Trp Pro Val Glu Gln Phe Ile Ala Phe
 1               5                   10                  15


Met Ala Val Gly Lys
                20


(2) INFORMATION FOR SEQ ID NO:65:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

Ser Gly Gly Ala Ile Tyr Met Pro Val Glu Gln Phe Ile Ala Phe
 1               5                   10                  15


Met Ala Val Gly Lys
                20


(2) INFORMATION FOR SEQ ID NO:66:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

Glu Val Leu Leu Cys Ser Asp Gly Pro Gln Leu Tyr Leu Cys Glu
  1              5                   10                  15


Leu Tyr Ala
        18


(2) INFORMATION FOR SEQ ID NO:67:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
```

(B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

Ser Gly Val Glu Cys Val Trp Gly Pro Gln Trp Gly Phe Cys Val
 1   5   10   15

Glu Glu Tyr
        18

(2) INFORMATION FOR SEQ ID NO:68:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

Asp Lys Glu Val Cys Tyr Leu Gly Pro Glu Thr Trp Leu Cys Phe
 1   5   10   15

Trp Trp Pro
        18

(2) INFORMATION FOR SEQ ID NO:69:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

Gly Asp Val Glu Cys Ile Glu Gly Pro Trp Gly Glu Leu Cys Val
 1   5   10   15

Trp Ala Asp
        18

(2) INFORMATION FOR SEQ ID NO:70:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

Phe Gly Gly Trp Ser Cys Gln Pro Thr Trp Val Asp Val Tyr Val
 1   5   10   15

179

Cys Asn Phe Glu Glu
                20

(2) INFORMATION FOR SEQ ID NO:71:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

Ala Met Trp Val Cys Val Ser Asp Trp Glu Thr Val Glu Glu Cys
 1   5   10   15

Ile Gln Tyr Met Tyr
                20

(2) INFORMATION FOR SEQ ID NO:72:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

Thr Asn Trp Phe Phe Val Cys Glu Ser Gly His Gln Asp Ile Cys
 1   5   10   15

Trp Leu Ala Glu Glu
                20

(2) INFORMATION FOR SEQ ID NO:73:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

Ser Glu Val Gly Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
 1   5   10   15

Lys Tyr Phe
        18

(2) INFORMATION FOR SEQ ID NO:74:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 19 amino acids

(B) TYPE: Amino Acid
         (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

Lys Asp Pro Val Cys Gly Glu Gly Pro Leu Met Arg Ile Cys Glu
 1   5   10   15

Arg Leu Phe Gly
            19

(2) INFORMATION FOR SEQ ID NO:75:

    (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 21 amino acids
         (B) TYPE: Amino Acid
         (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

Glu Val Asp Gly Arg Trp Trp Ile Val Glu Thr Phe Leu Ala Lys
 1   5   10   15

Trp Asp His Met Ala Gly
                20 21

(2) INFORMATION FOR SEQ ID NO:76:

    (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 18 amino acids
         (B) TYPE: Amino Acid
         (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

Trp Val Met Glu Cys Gly Ala Gly Pro Trp Pro Glu Gly Cys Thr
 1   5   10   15

Phe Met Leu
        18

(2) INFORMATION FOR SEQ ID NO:77:

    (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 19 amino acids
         (B) TYPE: Amino Acid
         (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

Arg Lys Thr Ser Gln Gly Arg Gly Gln Glu Met Cys Trp Glu Thr
 1   5   10   15

```
Gly Gly Cys Ser
          19


(2) INFORMATION FOR SEQ ID NO:78:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

Ser Trp Glu Arg Gly Glu Leu Thr Tyr Met Lys Leu Cys Glu Tyr
  1           5                  10                      15

Met Arg Leu Gln Gln
              20


(2) INFORMATION FOR SEQ ID NO:79:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

Glu His Gly Arg Ala Asn Cys Leu Ile Thr Pro Glu Ala Gly Lys
  1           5                  10                      15

Leu Ala Arg Val Thr
              20


(2) INFORMATION FOR SEQ ID NO:80:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

Val Glu Asp Glu Cys Trp Met Gly Pro Asp Trp Ala Val Cys Trp
  1           5                  10                      15

Thr Trp Gly
        18


(2) INFORMATION FOR SEQ ID NO:81:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11 amino acids
```

```
          (B) TYPE: Amino Acid
          (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
  1               5               10  11


(2) INFORMATION FOR SEQ ID NO:82:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 12 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys
  1               5               10      12


(2) INFORMATION FOR SEQ ID NO:83:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 14 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Ala Ala
  1               5               10              14


(2) INFORMATION FOR SEQ ID NO:84:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 14 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

Cys Arg Lys Gly Pro Leu Gln Trp Leu Cys Glu Leu Tyr Phe
  1               5               10              14


(2) INFORMATION FOR SEQ ID NO:85:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 14 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear
```

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

Cys Arg Lys Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe
 1   5   10   14

(2) INFORMATION FOR SEQ ID NO:86:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 14 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

Cys Lys Glu Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe
 1   5   10   14

(2) INFORMATION FOR SEQ ID NO:87:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 14 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

Cys Lys Glu Gly Pro Leu Leu Trp Leu Cys Glu Lys Tyr Phe
 1   5   10   14

(2) INFORMATION FOR SEQ ID NO:88:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

Ser Glu Val Gly Cys Arg Glu Gly Pro Leu Gln Trp Leu Cys Glu
 1   5   10   15

Lys Tyr Phe
        18

(2) INFORMATION FOR SEQ ID NO:89:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 14 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

184

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

Cys Ala Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe
1   5   10   14

(2) INFORMATION FOR SEQ ID NO:90:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 14 amino acids
    (B) TYPE: Amino Acid
    (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Arg Tyr Phe
1   5   10   14

(2) INFORMATION FOR SEQ ID NO:91:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 14 amino acids
    (B) TYPE: Amino Acid
    (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Phe Phe
1   5   10   14

(2) INFORMATION FOR SEQ ID NO:92:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 14 amino acids
    (B) TYPE: Amino Acid
    (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

Cys Lys Ala Gly Pro Leu Leu Trp Leu Cys Glu Arg Phe Phe
1   5   10   14

(2) INFORMATION FOR SEQ ID NO:93:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 14 amino acids
    (B) TYPE: Amino Acid
    (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Arg Phe Phe
1   5   10   14

(2) INFORMATION FOR SEQ ID NO:94:

   (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 14 amino acids
       (B) TYPE: Amino Acid
       (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

Cys Arg Glu Gly Pro Leu Gln Trp Leu Cys Glu Arg Phe Phe
 1   5   10   14

(2) INFORMATION FOR SEQ ID NO:95:

   (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 14 amino acids
       (B) TYPE: Amino Acid
       (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

Cys Lys Glu Gly Pro Leu Leu Trp Leu Cys Glu Arg Phe Phe
 1   5   10   14

(2) INFORMATION FOR SEQ ID NO:96:

   (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 14 amino acids
       (B) TYPE: Amino Acid
       (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe
 1   5   10   14

(2) INFORMATION FOR SEQ ID NO:97:

   (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 18 amino acids
       (B) TYPE: Amino Acid
       (D) TOPOLOGY: Linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

Ser Glu Met Val Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
 1   5   10   15

Ile Tyr Phe
        18

186

(2) INFORMATION FOR SEQ ID NO:98:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

```
Glu Ala Arg Val Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
 1               5                  10                  15

Lys Tyr Phe
        18
```

(2) INFORMATION FOR SEQ ID NO:99:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 21 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

```
Ser Glu Val Gly Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
 1               5                  10                  15

Lys Tyr Phe Ser Thr Tyr
                20  21
```

(2) INFORMATION FOR SEQ ID NO:100:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 17 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

```
Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe Ser
 1               5                  10                  15

Thr Tyr
    17
```

(2) INFORMATION FOR SEQ ID NO:101:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

Ala Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys
 1   5   10   15

Asn Met Trp Gly Arg
                20

(2) INFORMATION FOR SEQ ID NO:102:

     (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 16 amino acids
         (B) TYPE: Amino Acid
         (D) TOPOLOGY: Linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

Ala Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys
 1   5   10   15

Asn
 16

(2) INFORMATION FOR SEQ ID NO:103:

     (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 15 amino acids
         (B) TYPE: Amino Acid
         (D) TOPOLOGY: Linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

Gly Pro Glu Thr Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
 1   5   10   15

(2) INFORMATION FOR SEQ ID NO:104:

     (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 14 amino acids
         (B) TYPE: Amino Acid
         (D) TOPOLOGY: Linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
 1   5   10   14

(2) INFORMATION FOR SEQ ID NO:105:

     (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 13 amino acids
         (B) TYPE: Amino Acid

188

(D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
  1   5   10   13

(2) INFORMATION FOR SEQ ID NO:106:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:

Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
  1   5   10 11

(2) INFORMATION FOR SEQ ID NO:107:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
  1   5   10

(2) INFORMATION FOR SEQ ID NO:108:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 12 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:

Cys Gln Leu Val Arg Pro Asp Leu Leu Leu Cys Gln
  1   5   10   12

(2) INFORMATION FOR SEQ ID NO:109:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11 amino acids
        (B) TYPE: Amino Acid
        (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

```
Ile Pro Val Ser Pro Asp Trp Phe Val Cys Gln
 1               5               10   11
```